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=> s ribozyme and (nematode or elegans)

L1 221 RIBOZYME AND (NEMATODE OR ELEGANS)

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=> s l1 (p) (nematode or elegans)

PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
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FIELD CODE - 'AND' OPERATOR ASSUMED 'L5 (P) '  
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH  
FIELD CODE - 'AND' OPERATOR ASSUMED 'L6 (P) '  
L3 221 L1 (P) (NEMATODE OR ELEGANS)

=> s ribozyme (p) (nematode or elegans)

L4 9 RIBOZYME (P) (NEMATODE OR ELEGANS)

=> d l4 ibib abs tot

L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2001 ACS  
ACCESSION NUMBER: 1993:142304 CAPLUS  
DOCUMENT NUMBER: 118:142304  
TITLE: Ribozymes for specific inhibition of mRNA function in

the nematode *Caenorhabditis elegans*  
AUTHOR(S): Kawahara, Tetsushi; Ohshima, Yasumi  
CORPORATE SOURCE: Fac. Sci., Kyushu Univ., Fukuoka 812, Japan  
SOURCE: Nucleic Acids Symp. Ser. (1992), 27 (Nineteenth  
Symposium on Nucleic Acids Chemistry, 1992), 45-6  
CODEN: NACSD8; ISSN: 0261-3166

DOCUMENT TYPE: Journal  
LANGUAGE: English

AB Nine different hammerhead ribozymes were designed for three specific sites

of gene unc-22-encoded mRNA in *C. elegans*, which carry the common catalytic core and 12, 16 or 20 flanking nucleotides for base pairing

with

the mRNA, and tested for cleavage of short substrate RNA in vitro. All the ribozymes cleaved the substrate RNA catalytically at 37.degree. and the activities at 37.degree. were higher for all the ribozymes than those at 20.degree., the nematode growth temp. Plasmids carrying each of a few different promoters and lacZ reporter gene were prepd. and tested in the nematode as a test of vectors for the expression of ribozymes in vivo.

L4 ANSWER 2 OF 9 LIFESCI COPYRIGHT 2001 CSA

ACCESSION NUMBER: 95:106212 LIFESCI

TITLE: Dynamic RNA-RNA interactions in the spliceosome

AUTHOR: Madhani, H.D.; Guthrie, C.

CORPORATE SOURCE: Dep. Biochem. Biophys., Univ. California at San Francisco, San Francisco, CA 94143-0448, USA

SOURCE: ANNU. REV. GENET., (1994) vol. 28, pp. 1-26.  
ISSN: 0066-4197.

DOCUMENT TYPE: Journal

TREATMENT CODE: General Review

FILE SEGMENT: N

LANGUAGE: English

AB Genes in eukaryotes are often interrupted by intervening sequences that must be removed during gene expression. RNA splicing is the process by which these intervening sequences (introns) are precisely removed and the flanking, functional sequences (exons) are joined together. Splicing proceeds via two transesterification steps. In the first cleavage-ligation

step of this reaction, the 2' hydroxyl of an internal adenosine residue attacks the phosphate at the 5' splice site, releasing the 5' exon and resulting in formation of a branched molecule, the lariat intermediate. This intermediate contains an unusual 5'-2' phosphodiester bond between the 5' end of the intron and the internal adenosine (the branchpoint adenosine). During the second cleavage-ligation step, the 3' hydroxyl of the 5' exon attacks the phosphate at the 3' splice site. This results in the ligation of the two exons and the release of the intron in lariat form. Splicing occurs in a large and dynamic ribonucleoprotein complex, the spliceosome. Five small nuclear RNAs (U1, U2, U4, U5, and U6 snRNAs) constitute key components of this machine. Packaged by proteins into ribonucleoproteins (snRNPs), these snRNAs assemble onto the pre-mRNA substrate in an ordered, step-wise fashion. A conspicuous feature of this conserved assembly pathway is that many steps require the hydrolysis of ATP. The discovery of RNA catalysis led to early speculation that nuclear pre-mRNA splicing might be a fundamentally RNA-catalyzed process mediated by the spliceosomal snRNAs. This hypothesis was galvanized by the observation that Group II self-splicing introns are removed by a two-step chemical pathway that is highly similar if not identical to that which accomplishes nuclear pre-mRNA splicing. The notion that the spliceosome

is

an RNA enzyme, or **ribozyme**, requires the existence of spliceosomal active site structures composed of snRNA and pre-mRNA sequences. By this model, the ATP-dependent spliceosome assembly pathway would function to build these active sites and simultaneously juxtapose catalytic groups with their respective substrates for the two chemical steps of the splicing reaction. Evidence supporting this view of the spliceosome as a **ribozyme** has begun to emerge. Through the

combined application of powerful genetic and biochemical approaches in yeast, **nematode**, and vertebrate systems, a number of RNA-RNA interactions involving the snRNAs and the pre-mRNA have been identified. This has led to an explicit model for active site architecture in the spliceosome in which the reaction partners for the two transesterification reactions of splicing are brought together through a network of RNA-RNA interactions. Unexpectedly, these interactions require that several preexisting snRNA structures be rearranged as the spliceosome is built. Presumably, this dynamism requires the participation of factors that mediate the disruption of one set of RNA-RNA interactions and the formation and stabilization of another. There are now hints that members of a family of RNA-dependent ATPases might be involved in such conformational isomerizations in the spliceosome. Finally, potential analogs of many of the spliceosomal RNA structures can be found in Group II introns, raising the possibility that splicing in the two systems is accomplished through fundamentally equivalent active sites. However, unlike the prefabricated, "hard-wired" catalytic architecture of Group II introns, the dynamic ATP-driven formation of active site structure in the spliceosome offers multiple opportunities for the regulation of splice site choice and splicing efficiency. We focus here on RNA structural aspects of splicing, emphasizing the dynamic properties of the spliceosomal apparatus.

L4 ANSWER 3 OF 9 USPATFULL

ACCESSION NUMBER: 2001:4538 USPATFULL  
 TITLE: Calreticulin genes and promoter regions and uses thereof  
 INVENTOR(S): Coughlan, Sean J., Des Moines, IA, United States  
 Winfrey, Jr., Ron J., Johnston, IA, United States  
 PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Johnston, IA, United States (U.S. corporation)

	NUMBER	DATE
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PATENT INFORMATION:	US 6171864	20010109
APPLICATION INFO.:	US 1996-675816	19960705 (8)
DOCUMENT TYPE:	Patent	
PRIMARY EXAMINER:	Kemmerer, Elizabeth	
LEGAL REPRESENTATIVE:	Seed IP Law Group PLLC	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	25 Drawing Figure(s); 21 Drawing Page(s)	
LINE COUNT:	1311	

AB Isolated nucleic acid molecules are provided which encode calreticulin and calnexin. Also provided are vectors which are capable of expressing such nucleic acid molecules, host cells which contain such vectors, and polypeptides encoded by the afore-mentioned nucleic acids. In addition, nucleic acid molecules are provided which comprise calreticulin or calnexin promoters.

L4 ANSWER 4 OF 9 USPATFULL

ACCESSION NUMBER: 2000:95109 USPATFULL  
 TITLE: Nematode-induced genes in tomato  
 INVENTOR(S): Bird, David McK., Riverside, CA, United States  
 Wilson, Mark A., Moreno Valley, CA, United States  
 PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	DATE
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PATENT INFORMATION:	US 6093810	20000725
APPLICATION INFO.:	US 1996-756849	19961126 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-248474, filed on 25 May 1994, now patented, Pat. No. US 5612471	

DOCUMENT TYPE: Utility  
PRIMARY EXAMINER: Campell, Bruce R.  
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew  
NUMBER OF CLAIMS: 11  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 3 Drawing Page(s)  
LINE COUNT: 3013

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides nucleic sequences from genes which are preferentially expressed in feeding site cells. These sequences can be used to produce transgenic plants resistant to nematode infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 5 OF 9 USPATFULL

ACCESSION NUMBER: 1999:170828 USPATFULL  
TITLE: Nematode-resistant transgenic plants  
INVENTOR(S): Conkling, Mark A., Fuquay-Varina, NC, United States  
Opperman, Charles H., Raleigh, NC, United States  
Acedo, Gregoria N., Durham, NC, United States  
Song, Wen, Raleigh, NC, United States  
PATENT ASSIGNEE(S): North Carolina State University, Raleigh, NC, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 6008436	19991228
APPLICATION INFO.:	US 1996-654025	19960523 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-332658, filed on 1 Nov 1994, now abandoned which is a continuation of Ser. No.	

US 1993-7998, filed on 21 Jan 1993, now abandoned

DOCUMENT TYPE: Utility  
PRIMARY EXAMINER: Robinson, Douglas W.  
ASSISTANT EXAMINER: Haas, Thomas  
LEGAL REPRESENTATIVE: Myers Bigel Sibley & Sajovec  
NUMBER OF CLAIMS: 53  
EXEMPLARY CLAIM: 28  
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)  
LINE COUNT: 1451

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Nematode-resistant transgenic plants are disclosed. The plants comprise plant cells containing a DNA construct comprising a transcription cassette, which construct comprises, in the 5' to 3' direction, a promoter operable in the plant cells, and a DNA comprising at least a portion of a DNA sequence encoding a nematode-inducible transmembrane pore protein in either the sense or antisense orientation.

Intermediates

for producing the same along with methods of making and using the same are also disclosed. In an alternate embodiment of the invention, the sense or antisense DNA is replaced with a DNA encoding an enzymatic RNA molecule directed against the mRNA transcript of a DNA sequence encoding a nematode-inducible transmembrane pore protein.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 6 OF 9 USPATFULL

ACCESSION NUMBER: 1999:166569 USPATFULL  
TITLE: Methods of cancer diagnosis and therapy targeted against the cancer stemline  
INVENTOR(S): Bergstein, Ivan, 435 E. 70th St., Apt 28-L, New York, NY, United States 10021

NUMBER	DATE
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PATENT INFORMATION: US 6004528 19991221  
APPLICATION INFO.: US 1997-933330 19970918 (8)  
DOCUMENT TYPE: Utility  
PRIMARY EXAMINER: Hutzell, Paula K.  
ASSISTANT EXAMINER: Bansal, Geetha P.  
LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, LLP  
NUMBER OF CLAIMS: 14  
EXEMPLARY CLAIM: 1,10  
NUMBER OF DRAWINGS: 11 Drawing Figure(s); 6 Drawing Page(s)  
LINE COUNT: 3572

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Improved methods for the diagnosis and treatment of cancer which involve

the targeting of slow-growing, relatively mutationally-spared cancer stemline are provided. These methods are an improvement over previous cancer detection and therapeutic methods because they provide for very early cancer detection and treatment and reduce the likelihood of clinical relapse after treatment.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 7 OF 9 USPATFULL

ACCESSION NUMBER: 1998:98794 USPATFULL  
TITLE: Filariid nematode cysteine protease proteins, nucleic acid molecules and uses thereof  
INVENTOR(S): Tripp, Cynthia Ann, Fort Collins, CO, United States  
Wisnewski, Nancy, Fort Collins, CO, United States  
Grieve, Robert B., Fort Collins, CO, United States  
Frank, Glenn R., Wellington, CO, United States  
PATENT ASSIGNEE(S): Heska Corporation, Fort Collins, CO, United States (U.S. corporation)  
Colorado State University Research Foundation, Fort Collins, CO, United States (U.S. corporation)

NUMBER DATE

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PATENT INFORMATION: US 5795768 19980818  
APPLICATION INFO.: US 1995-486036 19950607 (8)  
RELATED APPLN. INFO.: Continuation-in-part of Ser. No. US 1993-153554, filed on 16 Nov 1993, now abandoned And Ser. No. US 1993-101283, filed on 3 Aug 1993, now abandoned which is a continuation of Ser. No. US 1991-654226, filed on 12 Feb 1991, now abandoned, said Ser. No. US 153554 which is a continuation of Ser. No. US 1991-792209, filed on 12 Nov 1991, now abandoned  
DOCUMENT TYPE: Utility  
PRIMARY EXAMINER: Sisson, Bradley L.  
LEGAL REPRESENTATIVE: Heska CorporationColorado State University Research Foundation  
NUMBER OF CLAIMS: 9  
EXEMPLARY CLAIM: 1  
LINE COUNT: 1869

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for filariid nematode cysteine protease proteins; to filariid nematode cysteine protease nucleic acid molecules,

in particular, *Dirofilaria immitis* L3 larval cysteine protease nucleic acid molecules and *Onchocerca volvulus* L3 larval cysteine protease nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by

parasitic helminths.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 8 OF 9 USPATFULL

ACCESSION NUMBER: 1998:95401 USPATFULL  
TITLE: Dirofilaria and onchocerca larval L3 cysteine protease proteins and uses thereof  
INVENTOR(S): Tripp, Cynthia Ann, Fort Collins, CO, United States  
Wisnewski, Nancy, Fort Collins, CO, United States  
Grieve, Robert B., Fort Collins, CO, United States  
Frank, Glenn R., Wellington, CO, United States  
Richer, Jennifer K., Denver, CO, United States  
PATENT ASSIGNEE(S): Heska Corporation, Fort Collins, CO, United States (U.S. corporation)  
Colorado State University Research Foundation, Fort Collins, CO, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5792624	19980811
APPLICATION INFO.:	US 1995-482282	19950607 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-153554, filed on 16 Nov 1993, now abandoned And Ser. No. US 1993-101283, filed on 3 Aug 1993, now abandoned which is a continuation of Ser. No. US 1991-654226, filed on 12 Feb 1991, now abandoned, said Ser. No. US 153554 which is a continuation of Ser. No. US 1991-792209, filed on 12 Nov 1991, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Sisson, Bradley L.	
LEGAL REPRESENTATIVE:	Heska CorporationColorado State University Research Foundation	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1838	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides for filariid nematode cysteine protease proteins; to filariid nematode cysteine protease nucleic acid molecules, in particular, Dirofilaria immitis L3 larval cysteine protease nucleic acid molecules and Onchocerca volvulus L3 larval cysteine protease nucleic acid molecules; to antibodies raised against such proteins, and to compounds that inhibit filariid nematode cysteine protease activity. The present invention also includes methods to obtain such proteins, nucleic acid molecules, antibodies and/or inhibitors. The present invention also includes therapeutic compositions comprising such proteins, nucleic acid molecules, antibodies and/or inhibitors, and the use of such compositions to protect an animal from disease caused by parasitic helminths.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L4 ANSWER 9 OF 9 USPATFULL

ACCESSION NUMBER: 97:22911 USPATFULL  
TITLE: Nematode-induced genes in tomato  
INVENTOR(S): Bird, David McK., Riverside, CA, United States  
Wilson, Mark A., Moreno Valley, CA, United States  
PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5612471	19970318
APPLICATION INFO.:	US 1994-248474	19940525 (8)
DOCUMENT TYPE:	Utility	

PRIMARY EXAMINER: Chereskin, Che S.  
LEGAL REPRESENTATIVE: Townsend and Townsend and Crew  
NUMBER OF CLAIMS: 1  
EXEMPLARY CLAIM: 1  
NUMBER OF DRAWINGS: 4 Drawing Figure(s); 3 Drawing Page(s)  
LINE COUNT: 1722  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention provides nucleic sequences from genes which are preferentially expressed in feeding site cells. These sequences can be used to produce transgenic plants resistant to nematode infection.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

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L4 ANSWER 1 OF 9 CAPLUS COPYRIGHT 2001 ACS  
ACCESSION NUMBER: 1993:142304 CAPLUS  
DOCUMENT NUMBER: 118:142304  
TITLE: Ribozymes for specific inhibition of mRNA function in the nematode *Caenorhabditis elegans*  
AUTHOR(S): Kawahara, Tetsushi; Ohshima, Yasumi  
CORPORATE SOURCE: Fac. Sci., Kyushu Univ., Fukuoka, 812, Japan  
SOURCE: Nucleic Acids Symp. Ser. (1992), 27(Nineteenth Symposium on Nucleic Acids Chemistry, 1992), 45-6  
CODEN: NACSD8; ISSN: 0261-3166  
DOCUMENT TYPE: Journal  
LANGUAGE: English  
ST *Caenorhabditis* mRNA specific hammerhead **ribozyme** design;  
**nematode** mRNA specific **ribozyme** vector plasmid  
IT Plasmid and Episome  
(reporter, for use as vector for insertion of **ribozyme** gene into **nematode**, design and testing of)

L4 ANSWER 2 OF 9 LIFESCI COPYRIGHT 2001 CSA  
ACCESSION NUMBER: 95:106212 LIFESCI  
TITLE: Dynamic RNA-RNA interactions in the spliceosome  
AUTHOR: Madhani, H.D.; Guthrie, C.  
CORPORATE SOURCE: Dep. Biochem. Biophys., Univ. California at San Francisco, San Francisco, CA 94143-0448, USA  
SOURCE: ANNU. REV. GENET., (1994) vol. 28, pp. 1-26.  
ISSN: 0066-4197.  
DOCUMENT TYPE: Journal  
TREATMENT CODE: General Review  
FILE SEGMENT: N  
LANGUAGE: English

AB . . . if not identical to that which accomplishes nuclear pre-mRNA splicing. The notion that the spliceosome is an RNA enzyme, or **ribozyme**, requires the existence of spliceosomal active site structures composed of snRNA and pre-mRNA sequences. By this model, the ATP-dependent spliceosome. . . respective substrates for the two chemical steps of the splicing reaction. Evidence supporting this view of the spliceosome as a **ribozyme** has begun to emerge. Through the combined application of powerful genetic and biochemical approaches in yeast, **nematode**, and vertebrate systems, a number of RNA-RNA interactions involving the snRNAs and the pre-mRNA have been identified. This has led. . .

L4 ANSWER 3 OF 9 USPATFULL  
ACCESSION NUMBER: 2001:4538 USPATFULL  
TITLE: Calreticulin genes and promoter regions and uses thereof  
INVENTOR(S): Coughlan, Sean J., Des Moines, IA, United States  
Winfrey, Jr., Ron J., Johnston, IA, United States  
PATENT ASSIGNEE(S): Pioneer Hi-Bred International, Inc., Johnston, IA,



	NUMBER	DATE
PATENT INFORMATION:	US 6171864	20010109
APPLICATION INFO.:	US 1996-675816	19960705 (8)
DOCUMENT TYPE:	Patent	
PRIMARY EXAMINER:	Kemmerer, Elizabeth	
LEGAL REPRESENTATIVE:	Seed IP Law Group PLLC	
NUMBER OF CLAIMS:	19	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	25 Drawing Figure(s); 21 Drawing Page(s)	
LINE COUNT:	1311	
SUMM	. . . gene operably linked to said promoter. Representative examples of such foreign genes include genes which encode proteins, antisense genes and <b>ribozyme</b> genes. Within one embodiment the foreign gene confers resistance to a disease selected from the group consisting of Sclerotinia, sunflower head moth, canola flea beetle and soybean cyst <b>nematode</b> . Within other related aspects, host cells containing one of the above-described vectors are provided. Representative examples of suitable host cells. . .	

## L4 ANSWER 4 OF 9 USPATFULL

ACCESSION NUMBER:	2000:95109	USPATFULL
TITLE:	Nematode-induced genes in tomato	
INVENTOR(S):	Bird, David McK., Riverside, CA, United States Wilson, Mark A., Moreno Valley, CA, United States	
PATENT ASSIGNEE(S):	The Regents of the University of California, Oakland, CA, United States (U.S. corporation)	

	NUMBER	DATE
PATENT INFORMATION:	US 6093810	20000725
APPLICATION INFO.:	US 1996-756849	19961126 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1994-248474, filed on 25 May 1994, now patented, Pat. No. US 5612471	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Campell, Bruce R.	
LEGAL REPRESENTATIVE:	Townsend and Townsend and Crew LLP	
NUMBER OF CLAIMS:	11	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 3 Drawing Page(s)	
LINE COUNT:	3013	
CAS INDEXING IS AVAILABLE FOR THIS PATENT.		
SUMM	The expression cassettes may also comprise the <b>nematode</b> -responsive promoter operably linked to polynucleotide which inhibits expression of a <b>nematode</b> -induced gene. In these embodiments, the polynucleotide is typically linked to the promoter in an antisense orientation. The polynucleotide can also be used to transcribe a <b>ribozyme</b> .	

## L4 ANSWER 5 OF 9 USPATFULL

ACCESSION NUMBER:	1999:170828	USPATFULL
TITLE:	Nematode-resistant transgenic plants	
INVENTOR(S):	Conkling, Mark A., Fuquay-Varina, NC, United States Opperman, Charles H., Raleigh, NC, United States Acedo, Gregoria N., Durham, NC, United States Song, Wen, Raleigh, NC, United States	
PATENT ASSIGNEE(S):	North Carolina State University, Raleigh, NC, United States (U.S. corporation)	

	NUMBER	DATE
PATENT INFORMATION:	US 6008436	19991228

APPLICATION INFO.: US 1996-654025 19960523 (8)  
RELATED APPLN. INFO.: Continuation of Ser. No. US 1994-332658, filed on 1  
Nov 1994, now abandoned which is a continuation of Ser.

No. US 1993-7998, filed on 21 Jan 1993, now abandoned  
DOCUMENT TYPE: Utility  
PRIMARY EXAMINER: Robinson, Douglas W.  
ASSISTANT EXAMINER: Haas, Thomas  
LEGAL REPRESENTATIVE: Myers Bigel Sibley & Sajovec  
NUMBER OF CLAIMS: 53  
EXEMPLARY CLAIM: 28  
NUMBER OF DRAWINGS: 1 Drawing Figure(s); 1 Drawing Page(s)  
LINE COUNT: 1451  
CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . the sense or antisense DNA in the construct is replaced with a  
DNA encoding an enzymatic RNA molecule (i.e., a "**ribozyme**"),  
which enzymatic RNA molecule is directed against (i.e., cleaves) the  
mRNA transcript of a DNA encoding a **nematode**-inducible  
transmembrane pore protein as described hereinabove. DNA encoding  
enzymatic RNA molecules may be produced in accordance with known  
techniques. See, . . .

L4 ANSWER 6 OF 9 USPATFULL

ACCESSION NUMBER: 1999:166569 USPATFULL  
TITLE: Methods of cancer diagnosis and therapy targeted  
against the cancer stemline  
INVENTOR(S): Bergstein, Ivan, 435 E. 70th St., Apt 28-L, New York,  
NY, United States 10021

	NUMBER	DATE
PATENT INFORMATION:	US 6004528	19991221
APPLICATION INFO.:	US 1997-933330	19970918 (8)
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Hutzell, Paula K.	
ASSISTANT EXAMINER:	Bansal, Geetha P.	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis, LLP	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1,10	
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 6 Drawing Page(s)	
LINE COUNT:	3572	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . appears to be related to a gene (par-1) in nematodes which is  
known to affect the asymmetric action of another **nematode**  
factor (SKN-1) which itself is related to the yeast HO-inhibiting  
factor

(Ash-1p). Thus, assuming the likely existence of a conserved. . .  
Kp78/par-1, SKN-1, HO), or block negatively-acting factors (e.g.

Ash-1p)  
by the methods of gene therapy and gene-inhibitor (e.g. antisense and  
**ribozyme**) therapy described in this and previous subsections. It  
should also be noted that those factors (mentioned in the previous  
sentence). . .

L4 ANSWER 7 OF 9 USPATFULL

ACCESSION NUMBER: 1998:98794 USPATFULL  
TITLE: Filariid nematode cysteine protease proteins, nucleic  
acid molecules and uses thereof  
INVENTOR(S): Tripp, Cynthia Ann, Fort Collins, CO, United States  
Wisnewski, Nancy, Fort Collins, CO, United States  
Grieve, Robert B., Fort Collins, CO, United States  
Frank, Glenn R., Wellington, CO, United States  
PATENT ASSIGNEE(S): Heska Corporation, Fort Collins, CO, United States  
(U.S. corporation)  
Colorado State University Research Foundation, Fort

	NUMBER	DATE
PATENT INFORMATION:	US 5795768	19980818
APPLICATION INFO.:	US 1995-486036	19950607 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-153554, filed on 16 Nov 1993, now abandoned And Ser. No. US 1993-101283, filed on 3 Aug 1993, now abandoned which is a continuation of Ser. No. US 1991-654226, filed on 12 Feb 1991, now abandoned, said Ser. No. US 153554 which is a continuation of Ser. No. US 1991-792209, filed on 12 Nov 1991, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Sisson, Bradley L.	
LEGAL REPRESENTATIVE:	Heska CorporationColorado State University Research Foundation	
NUMBER OF CLAIMS:	9	
EXEMPLARY CLAIM:	1	
LINE COUNT:	1869	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

DETD . . . conditions, with complementary regions of other, preferably longer, nucleic acid molecules of the present invention such as those comprising filariid **nematode** CP genes or other filariid **nematode** CP nucleic acid molecules. Oligonucleotides of the present invention can be RNA, DNA, or derivatives of either. The minimal size. . . CP protein production or activity. Such therapeutic applications include the use of such oligonucleotides in, for example, antisense-, triplex formation-, **ribozyme**- and/or RNA drug-based technologies. The present invention, therefore, includes such oligonucleotides and methods to protect animals from disease caused by.

L4 ANSWER 8 OF 9 USPATFULL

ACCESSION NUMBER: 1998:95401 USPATFULL

TITLE: Dirofilaria and onchocerca larval L3 cysteine protease proteins and uses thereof

INVENTOR(S): Tripp, Cynthia Ann, Fort Collins, CO, United States  
Wisnewski, Nancy, Fort Collins, CO, United States  
Grieve, Robert B., Fort Collins, CO, United States  
Frank, Glenn R., Wellington, CO, United States  
Richer, Jennifer K., Denver, CO, United States

PATENT ASSIGNEE(S): Heska Corporation, Fort Collins, CO, United States (U.S. corporation)  
Colorado State University Research Foundation, Fort Collins, CO, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5792624	19980811
APPLICATION INFO.:	US 1995-482282	19950607 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-153554, filed on 16 Nov 1993, now abandoned And Ser. No. US 1993-101283, filed on 3 Aug 1993, now abandoned which is a continuation of Ser. No. US 1991-654226, filed on 12 Feb 1991, now abandoned, said Ser. No. US 153554 which is a continuation of Ser. No. US 1991-792209, filed on 12 Nov 1991, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Sisson, Bradley L.	
LEGAL REPRESENTATIVE:	Heska CorporationColorado State University Research Foundation	
NUMBER OF CLAIMS:	5	
EXEMPLARY CLAIM:	1	

LINE COUNT: 1838

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM . . . condit~~ions~~s, with complementary regions ~~other~~, preferably longer, nucleic acid molecules of the present invention such as those comprising filariid **nematode** CP genes or other filariid **nematode** CP nucleic acid molecules. Oligonucleotides of the present invention can be RNA, DNA, or derivatives of either. The minimal size. . . CP protein production or activity. Such therapeutic applications include the use of such oligonucleotides in, for example, antisense-, triplex formation-, **ribozyme**- and/or RNA drug-based technologies. The present invention, therefore, includes such oligonucleotides and methods to protect animals from disease caused by.

L4 ANSWER 9 OF 9 USPATFULL

ACCESSION NUMBER: 97:22911 USPATFULL

TITLE: Nematode-induced genes in tomato

INVENTOR(S): Bird, David McK., Riverside, CA, United States

Wilson, Mark A., Moreno Valley, CA, United States

PATENT ASSIGNEE(S): The Regents of the University of California, Oakland, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5612471	19970318
APPLICATION INFO.:	US 1994-248474	19940525 (8)
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Chereskin, Che S.	
LEGAL REPRESENTATIVE:	Townsend and Townsend and Crew	
NUMBER OF CLAIMS:	1	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 3 Drawing Page(s)	
LINE COUNT:	1722	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

SUMM The expression cassettes may also comprise the **nematode** -responsive promoter operably linked to polynucleotide which inhibits expression of a **nematode**-induced gene. In these embodiments, the polynucleotide is typically linked to the promoter in an antisense orientation. The polynucleotide can also be used to transcribe a **ribozyme**.

that we propose is essential for establishing the path of the cleavage furrow at cytokinesis. Last, **dsRNA**-mediated mRNA degradation is not restricted to alpha-tubulin mRNA but can be applied to other cellular mRNAs, thus establishing a powerful tool to genetically manipulate these important protozoan parasites.

L2 ANSWER 11 OF 13 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:465069 CAPLUS

DOCUMENT NUMBER: 129:184695

TITLE: **Double-stranded RNA** as a mediator in sequence-specific genetic silencing and co-suppression

AUTHOR(S): Montgomery, Mary K.; Fire, Andrew

CORPORATE SOURCE: Dep. Embryology, Carnegie Inst. Washington, Baltimore,

MD, 21210, USA

SOURCE: Trends Genet. (1998), 14(7), 255-258

CODEN: TRGEE2; ISSN: 0168-9525

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal; General Review

LANGUAGE: English

AB A review and discussion with 24 refs. on the possibility that **double-stranded RNA (dsRNA)**, rather than sense or antisense single-stranded RNAs alone, is the effector mol. responsible for RNA-mediated silencing and co-suppression. Topics include: RNA-mediated genetic interference in nematode; RNA-mediated silencing and co-suppression in plants; possible mechanisms for RNA-mediated interference; and RNA-mediated interference mechanisms in organisms other than nematodes and plants.

L2 ANSWER 12 OF 13 USPATFULL

ACCESSION NUMBER: 97:81131 USPATFULL

TITLE: Invertase genes and uses thereof

INVENTOR(S): Fitzmaurice, Leona C., San Diego, CA, United States

Mirkov, T. Erik, San Diego, CA, United States

Elliott, Kathryn J., San Diego, CA, United States

Butler, William Owen, San Diego, CA, United States

Konno, Yoshihiro, Onishi, Japan

Dickinson, Craig Duane, San Diego, CA, United States

PATENT ASSIGNEE(S): The Salk Institute Biotechnology/Industrial Associates,

Inc., San Diego, CA, United States (U.S. corporation)

	NUMBER	DATE
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PATENT INFORMATION:	US 5665579	19970909
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APPLICATION INFO.:	US 1994-245809	19940517 (8)
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RELATED APPLN. INFO.:	Continuation of Ser. No. US 1991-771331, filed on 4 Oct	
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1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-660344, filed on 22 Feb 1991, now abandoned

DOCUMENT TYPE: Utility

PRIMARY EXAMINER: Fox, David T.

ASSISTANT EXAMINER: McElwain, Elizabeth F.

LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, L.L.P.

NUMBER OF CLAIMS: 17

EXEMPLARY CLAIM: 17

NUMBER OF DRAWINGS: 14 Drawing Figure(s); 8 Drawing Page(s)

LINE COUNT: 3565

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Transgenic plants that are modified to produce fruits that have altered levels of soluble solids compared to non-transgenic species of the same species are provided. The transgenic plants are modified by introduction

of DNA constructs that encode invertase operatively linked to DNA

=> d ibib kwic 12 13

L2 ANSWER 13 OF 13 USPATFULL

ACCESSION NUMBER: 96:106598 USPATFULL  
TITLE: Invertase gene(s) and uses thereof  
INVENTOR(S): Butler, William O., San Diego, CA, United States  
Konno, Yoshihiro, Gunma, Japan  
Dickinson, Craig D., San Diego, CA, United States  
Fitzmaurice, Leona C., San Diego, CA, United States  
Mirkov, Theodore E., San Diego, CA, United States  
Elliott, Kathryn J., San Diego, CA, United States  
PATENT ASSIGNEE(S): The Salk Institute Biotechnology/Industrial  
Associates,  
Inc., La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5576428	19961119
APPLICATION INFO.:	US 1993-107748	19930820 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1991-771331, filed on 4 Oct 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-660344, filed on 22 Feb 1991, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Moody, Patricia R.	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis, LLP	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2498	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.  
SUMM . . . DNA constructs that result in decreased expression of  
invertase  
are provided. Reduced expression may be effected by methods such as  
**cosuppression** [for a discussion of **cosuppression** see  
Hooper, C. (1991) J. NIH Res. 3:49-54], by operatively linking a  
truncated form of a tomato fruit invertase gene to a promoter, or by  
expression of invertase antisense mRNA. Antisense RNA forms  
**double-stranded RNA** with the mRNA produced  
from the endogenous gene, thereby interfering with translation of the  
endogenous mRNA [see, e.g., Lichtenstein (1988). . . .  
DETD c. **Cosuppression** construct 35B/3-L1(P).  
DETD A construct for use in **cosuppression** of endogenous invertase  
expression was constructed by removing a coding segment from 35S/3-L1  
to  
create a construct 35S/3-L1(P) which encodes. . . .

=> d ibib kwic 12 12

L2 ANSWER 12 OF 13 USPATFULL

ACCESSION NUMBER: 97:81131 USPATFULL  
TITLE: Invertase genes and uses thereof  
INVENTOR(S): Fitzmaurice, Leona C., San Diego, CA, United States  
Mirkov, T. Erik, San Diego, CA, United States  
Elliott, Kathryn J., San Diego, CA, United States  
Butler, William Owen, San Diego, CA, United States  
Konno, Yoshihiro, Onishi, Japan  
Dickinson, Craig Duane, San Diego, CA, United States  
PATENT ASSIGNEE(S): The Salk Institute Biotechnology/Industrial  
Associates,  
Inc., San Diego, CA, United States (U.S. corporation)

NUMBER	DATE
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encoding regulatory regions that direct transcription of the DNA encoding invertase and to DNA encoding sequences that direct proper processing of the invertase through the secretory pathways of the plant and targeting of the invertase to the vacuole.

In particular, DNA constructs encoding tomato plant vacuolar invertase in operative linkage with a developmentally regulated promoter region are provided. Preferred regulatory and structural DNA is obtained from genomic DNA clones and cDNA clones encoding tomato fruit vacuolar invertases from the commercial tomato plant, *Lycopersicon esculentum*, and wild tomato plant, *Lycopersicon pimpinellifolium*.

Probes derived from the genomic DNA and cDNA, antibodies specific for tomato fruit invertase, and uses therefore, are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L2 ANSWER 13 OF 13 USPATFULL

ACCESSION NUMBER: 96:106598 USPATFULL

TITLE: Invertase gene(s) and uses thereof

INVENTOR(S): Butler, William O., San Diego, CA, United States

Konno, Yoshihiro, Gunma, Japan

Dickinson, Craig D., San Diego, CA, United States

Fitzmaurice, Leona C., San Diego, CA, United States

Mirkov, Theodore E., San Diego, CA, United States

Elliott, Kathryn J., San Diego, CA, United States

PATENT ASSIGNEE(S): The Salk Institute Biotechnology/Industrial

Associates,

Inc., La Jolla, CA, United States (U.S. corporation)

	NUMBER	DATE
PATENT INFORMATION:	US 5576428	19961119
APPLICATION INFO.:	US 1993-107748	19930820 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1991-771331, filed on 4 Oct 1991, now abandoned which is a continuation-in-part of Ser. No. US 1991-660344, filed on 22 Feb 1991, now abandoned	
DOCUMENT TYPE:	Utility	
PRIMARY EXAMINER:	Moody, Patricia R.	
LEGAL REPRESENTATIVE:	Burns, Doane, Swecker & Mathis, LLP	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
LINE COUNT:	2498	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Transgenic plants that are modified to produce fruits that have altered levels of soluble solids compared to non-transgenic plants of the same species are provided. The transgenic plants are prepared by introducing into plants DNA constructs that encode invertase operatively linked to DNA encoding regulatory regions that direct transcription of the DNA encoding invertase and operatively linked to DNA encoding amino acids that direct proper processing of the invertase through the secretory pathways of the plant and targeting of the invertase to the vacuole.

In particular, DNA constructs encoding tomato plant vacuolar invertase in operative linkage with a developmentally regulated promoter region are provided. Preferred regulatory and structural DNA is obtained from genomic DNA clones and cDNA clones encoding tomato fruit vacuolar invertases from the commercial tomato plant, *Lycopersicon esculentum*, and wild tomato plant, *Lycopersicon pimpinellifolium*.

Probes derived from the genomic DNA and cDNA, antibodies specific for tomato fruit invertase, and uses therefor, are also provided.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

PATENT INFORMATION: US 5665579 19970909  
 APPLICATION INFO.: US 1994-245809 19940517 (8)  
 RELATED APPLN. INFO.: Continuation of Ser. No. US 1991-771331, filed on 4  
 Oct 1991, now abandoned which is a continuation-in-part of  
 Ser. No. US 1991-660344, filed on 22 Feb 1991, now  
 abandoned  
 DOCUMENT TYPE: Utility  
 PRIMARY EXAMINER: Fox, David T.  
 ASSISTANT EXAMINER: McElwain, Elizabeth F.  
 LEGAL REPRESENTATIVE: Burns, Doane, Swecker & Mathis, L.L.P.  
 NUMBER OF CLAIMS: 17  
 EXEMPLARY CLAIM: 17  
 NUMBER OF DRAWINGS: 14 Drawing Figure(s); 8 Drawing Page(s)  
 LINE COUNT: 3565  
 CAS INDEXING IS AVAILABLE FOR THIS PATENT?  
 SUMM . . . of soluble solids in the fruit is reduced by preparing  
 transgenic plants that express anti-sense invertase mRNA. Anti-sense  
 RNA forms **double-stranded RNA** with the mRNA  
 produced from the endogenous gene, thereby interfering with translation  
 of the endogenous mRNA (see, e.g., Lichtenstein (1988)). . .  
 DETD C. **Cosuppression** Construct 35S/3-L1(P)  
 DETD An alternative approach to reducing invertase production in plant cells  
 is **cosuppression**.

=> s cosupression

L3 6 COSUPPRESSION

=> s cosuppression

L4 357 COSUPPRESSION

=> s 14 and py<1998

3 FILES SEARCHED...

4 FILES SEARCHED...

L5 166 L4 AND PY<1998

=> dup rem 15

PROCESSING COMPLETED FOR L5

L6 90 DUP REM L5 (76 DUPLICATES REMOVED)

=> 16 and review

L6 IS NOT A RECOGNIZED COMMAND

The previous command name entered was not recognized by the system.  
 For a list of commands available to you in the current file, enter  
 "HELP COMMANDS" at an arrow prompt (=>).

=> s 16 and review

L7 13 L6 AND REVIEW

=> d 17 ibib abs tot

L7 ANSWER 1 OF 13 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1997:607316 CAPLUS

DOCUMENT NUMBER: 127:288626

TITLE: Development of genetically engineered oilseeds. From  
 molecular biology to agronomics



L2 ANSWER 9 OF 13 LIFESCI COPYRIGHT 2001 CSA

ACCESSION NUMBER: 1999:50320 LIFESCI

TITLE: RNAi and double-strand RNA

AUTHOR: Sharp, P.A.

CORPORATE SOURCE: Center for Cancer Research and Department of Biology,  
Massachusetts Institute of Technology, Cambridge, MA  
02139-4307, USA; E-mail: sharppa@mit.edu

SOURCE: Genes & Development [Genes Dev.], (19990115) vol. 13, no.  
2, pp. 139-141.  
ISSN: 0890-9369.

DOCUMENT TYPE: Journal

TREATMENT CODE: General Review

FILE SEGMENT: N

LANGUAGE: English

AB Double-strand RNA (**dsRNA**) is a signal for gene-specific silencing of expression in a number of organisms. This phenomenon was demonstrated recently in *Caenorhabditis elegans* when **dsRNA** was injected into the worm and the corresponding gene products disappeared from both the somatic cells of the organism as well as in its F sub(1) progeny. This RNA interference, RNAi, has been generalized to many genes in *C. elegans*. ds-RNA can also suppress expression of specific genes in plants, a component of the phenomenon called **cosuppression**. Two recent reports document **dsRNA**-mediated interference with expression of specific genes in other organisms. Double-strand RNA produced gene-specific phenotypes in *Trypanosoma brucei* and, very recently, **dsRNA**-mediated interference was demonstrated in *Drosophila*. Thus, the RNAi phenomenon is likely to be a general mechanism for gene regulation and may be critical for many developmental and antiviral processes.

L2 ANSWER 10 OF 13 MEDLINE

DUPLICATE 3

ACCESSION NUMBER: 1999061928 MEDLINE

DOCUMENT NUMBER: 99061928

TITLE: **Double-stranded RNA** induces  
mRNA degradation in *Trypanosoma brucei*.

AUTHOR: Ngo H; Tschudi C; Gull K; Ullu E

CORPORATE SOURCE: Department of Internal Medicine, Yale University School of  
Medicine, 333 Cedar Street, New Haven, CT 06520-8022,  
USA.

CONTRACT NUMBER: AI28798 (NIAID)

SOURCE: PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE  
UNITED STATES OF AMERICA, (1998 Dec 8) 95 (25) 14687-92.  
Journal code: PV3. ISSN: 0027-8424.

PUB. COUNTRY: United States  
Journal; Article; (JOURNAL ARTICLE)

LANGUAGE: English

FILE SEGMENT: Priority Journals; Cancer Journals

ENTRY MONTH: 199903

ENTRY WEEK: 19990303

AB **Double-stranded RNA (dsRNA)**

recently has been shown to give rise to genetic interference in *Caenorhabditis elegans* and also is likely to be the basis for phenotypic **cosuppression** in plants in certain instances. While constructing a plasmid vector for transfection of trypanosome cells, we serendipitously discovered that in vivo expression of **dsRNA** of the alpha-tubulin mRNA 5' untranslated region (5' UTR) led to multinucleated cells with striking morphological alterations and a specific block of cytokinesis. Transfection of synthetic alpha-tubulin 5' UTR **dsRNA**, but not of either strand individually, caused the same phenotype. On **dsRNA** transfection, tubulin mRNA, but not the corresponding pre-mRNA, was rapidly and specifically degraded, leading to a deficit of alpha-tubulin synthesis. The transfected cells were no longer capable of carrying out cytokinesis and eventually died. Analysis of cytoskeletal structures from these trypanosomes revealed defects in the microtubules of the flagellar axoneme and of the flagellar attachment zone, a complex cortical structure

TITLE: Double-Stranded RNA as a  
Template for Gene Silencing  
AUTHOR: Bass, B.L.  
CORPORATE SOURCE: Department of Biochemistry and Howard Hughes Medical  
Institute, University of Utah School of Medicine, Salt  
Lake  
City, UR 84132, USA; E-mail:  
bbass@howard.genetics.utah.edu  
SOURCE: Cell, (20000428) vol. 101, no. 3, pp. 235-238.  
ISSN: 0092-8674.  
DOCUMENT TYPE: Journal  
TREATMENT CODE: General Review  
FILE SEGMENT: G; N  
LANGUAGE: English

AB When **double-stranded RNA (dsRNA)**

corresponding to a sense and antisense sequence of an endogenous mRNA is introduced into a cell, in organisms ranging from trypanosomes to mice, the cognate mRNA is degraded and the gene is silenced. This type of posttranscriptional gene silencing (PTGS) was first discovered in *C. elegans* and is called RNA interference, or RNAi. RNAi shows many similarities to the PTGS that is sometimes observed when a transgene is introduced into a cell, and the processes seem to require some of the same gene products. If transgene-induced silencing of an endogenous gene, or **cosuppression**, also involves **dsRNA**, somehow the cell must make both sense and antisense copies of the transgene sequence. PTGS has captured the interest (and imagination) of geneticists and molecular biologists alike, and now the first clues about its mechanism will certainly bring the biochemists into the fold. As is often the case for biological processes, the first hint about the mechanism comes from the identification of molecules that appear to be reaction intermediates. In particular, several recent papers report the identification of small RNA molecules, 21-25 nucleotides in length (21- to 25-mers), that correspond to sense and antisense pieces of the **dsRNA** or transgene introduced into the cell.

L2 ANSWER 8 OF 13 BIOSIS COPYRIGHT 2001 BIOSIS

ACCESSION NUMBER: 2000:376595 BIOSIS  
DOCUMENT NUMBER: PREV200000376595  
TITLE: Developmentally and transgene regulated nuclear processing  
of primary transcripts of chalcone synthase A in petunia.  
AUTHOR(S): Metzlauff, Michael (1); O'Dell, Michael; Hellens, Roger;  
Flavell, Richard B.  
CORPORATE SOURCE: (1) Aventis CropScience NV, J. Plateaustraat 22, 9000,  
Gent  
Belgium  
SOURCE: Plant Journal, (July, 2000) Vol. 23, No. 1, pp. 63-72.  
print.  
ISSN: 0960-7412.  
DOCUMENT TYPE: Article  
LANGUAGE: English  
SUMMARY LANGUAGE: English

AB The introduction of chalcone synthase A transgenes into petunia plants can

result in degradation of chalcone synthase A RNAs and loss of chalcone synthase, a process called **cosuppression** or post-transcriptional gene silencing. Here we show that the RNA degradation is associated with changes in premRNA processing, i.e. loss of tissue specificity in transcript cleavage patterns, accumulation of unspliced molecules, and use of template-specific secondary poly(A) sites. These changes can also be observed at a lower level in leaves but not flowers of nontransgenic petunias. Based on this, a model is presented of how transgenes may disturb the carefully evolved, developmentally controlled post-transcriptional regulation of chalcone synthase gene expression by influencing the survival rate of the endogenous and their own mRNA.